

Claims

1. A sensor assembly for signaling wear conditions on contact bodies of pantographs of electrically driven vehicles, wherein the contact bodies are attached to metallic supports,
characterized in that
the sensor assembly comprises blind holes (3) introduced into the contact body (2),
transmission channels (6) in communication with the blind holes (3), and a monitoring unit, wherein the blind holes (3) and the monitoring unit are connected via the transmission channels (6), and that a medium which generates signals at a predetermined wear condition is disposed in the blind holes (3), and a medium which transmits these signals to the monitoring unit is disposed in the transmission channel.
2. The sensor assembly according to claim 1,
characterized in that
the medium generating the signal and the medium transmitting the signal are identical.
3. The sensor assembly according to claim 1 or 2,
characterized in that
the medium generating and transmitting the signal is a hydraulic fluid.
4. The sensor assembly according to claim 1 or 2,
characterized in that
the medium generating and transmitting the signal is an electrically conductive medium.
5. The sensor assembly according to claim 1 or 2,
characterized in that
the medium generating and transmitting the signal is a light-guiding medium.

6. The sensor assembly according to claim 1,
characterized in that
the medium generating the signal and the medium transmitting the signal are not
identical.

7. The sensor assembly according to one of the claims 1 to 6,
characterized in that
the medium generating the signal is a current conductor (4), a light guide (5), a
photodiode (8) or a camera (9).

8. The sensor assembly according to one of the claims 1 to 7,
characterized in that
several blind holes (3) are arranged in spaced-apart relationship.

9. The sensor assembly according to one of the claims 1 to 8,
characterized in that
the blind holes (3) are arranged vertically.

10. The sensor assembly according to one of the claims 1 to 9,
characterized in that
the blind holes (3) have different hole depths (5).

11. The sensor assembly according to one of the claims 1 to 10,
characterized in that
each blind hole (3) or groups of blind holes (3) have separate transmission channels.

12. The sensor assembly according to one of the claims 1 to 11,
characterized in that
the blind holes (3) extend through a side face (24) of the contact body (2) with an acute
angle in the direction of the contact surface (21).

13. The sensor assembly according to one of the claims 1 to 12,
characterized in that
the blind holes (3) have a cylindrical shape.

14. The sensor assembly according to one of the claims 1 to 12,
characterized in that
the blind holes (3) have a conical shape.

15. The sensor assembly according to one of the claims 1 to 13,
characterized in that
the medium generating the signal is disposed at a hole bottom (31) of the blind hole (3).

16. The sensor assembly according to one of the claims 1 to 14,
characterized in that
the photodiode (8) or the camera (9) are arranged in the area of a hole entrance
opening (33) of the blind hole (3).

17. The sensor assembly according to one of the claims 1 to 16,
characterized in that
the photodiode (8) or the camera (9) are arranged in a conical blind hole (3).

18. The sensor assembly according to one of the claims 1 to 17,
characterized in that
in addition, a hydraulic fluid is disposed in the blind holes (1), in which a photodiode (8),
a camera (9) over a light guide (5) are arranged, and in the associated transmission
channels (6).

19. The sensor assembly according to one of the claims 1 to 18, characterized in that the transmission channels (6), which are in communication with the blind holes (3), are arranged in the support (7) below the contact body (2) and are connected from there to the monitoring unit via additional transmission channels.

20. The sensor assembly according to one of the claims 1 to 19, characterized in that the transmission channels (6), which are in communication with the blind holes (3), are arranged outside the support and are connected from there to the monitoring unit via additional transmission channels.

21. The sensor assembly according to one of the claims 1, 2, or 8 to 19, characterized in that the transmission channels (6) are implemented as hoses, tubes, support channels, light guides or current conductors.

22. The sensor assembly according to one of the claims 1 to 21, characterized in that a signal acquisition and processing unit is integrated in the monitoring unit.